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Building Newsletter 5-4

Maintaining Integrity of Area Separation Walls

Interpretations of State and Local Building Codes
1994 Uniform Building Code: Chapter 5
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The following limitations and restrictions apply to penetrations of two-hour and four-hour fire-resistive area separation walls to insure that the fire-resistive integrity of such walls is maintained (see Section 504.6).

I. Plumbing, Electrical and Communications Systems

A. Restrictions apply to the following:

1. Wiring, conduits, or cables
2. Drain, waste or vent (DWV) piping
3. Water supply piping
4. Piping for vacuum systems
5. Roof drains
6. Hot/chilled water lines for air conditioning systems
7. Lines for deionized water
8. Condensate drains
9. All other piping

B. Piping and cable or conduit for communication systems and electrical wiring may be contained within an area separation wall. However, if combustible material within the assembly is suspected of reducing the fire-resistive rating, the building official may require substantiating data to justify the condition. Acceptable data will generally consist of fire test results demonstrating the adequacy of an identical fire-resistive wall assembly with an equivalent number, size and type of combustible pipes, wires, and other elements contained within the wall.

C. Some materials are not permitted in certain buildings. See the Uniform Plumbing Code for restrictions on piping materials.

D. Through penetrations of fire-resistive bearing walls must be protected with through-penetration fire stops suitable for the method of penetration and meeting the requirements of UBC Standard No. 7-5 or they must comply with the exception listed in UBC Section 709.6. See Building Newsletter 7-5 for more information on through penetrations consisting of nonmetallic wiring.

E. Membrane penetrations of fire-resistive walls must be protected with membrane-penetration fire stops suitable for the method of penetration or they must otherwise comply with the requirements of UBC Section 709.7. See Building Newsletter 7-5 for more information on membrane penetrations of nonmetallic wiring.

II. Mechanical

A. Range hood vents, products of combustion vents, dryer vents, combustion air vents, wall furnaces, and all similar pieces of equipment are not permitted to be installed in, or to pass through area separation walls, nor through the one-hour fire-resistive roof-ceiling assemblies adjacent to area separation walls, except as specified in Sections 504.6.4, Exception 2.3 and Section 504.6.6, Exception 3.

B. Heating and air conditioning ducts may pass through fire-resistive area separation walls provided approved combination fire/smoke dampers, having a fire resistance rating that complies with the opening protection requirements of Section 504.6.2, are installed in accordance with their listing and the manufacturer's installation instructions.